

WHAT IS CLAIMED IS

1. A display assembly including a photovoltaic cell and an electro-optical cell arranged in front of said photovoltaic cell and capable of having transparent regions for transmitting incident light to said photovoltaic cell,
wherein said photovoltaic cell is arranged to reflect predetermined visible
wavelengths of the light transmitted through said electro-optical cell, so that said
photovoltaic cell forms a coloured reflector behind said electro-optical cell.
2. A display assembly according to claim 1, wherein said electro-optical cell
is a liquid crystal cell.
3. A display assembly according to claim 1, wherein said electro-optical cell
is of the electrochromic type or the electrolytic type.
4. A display assembly according to claim 1, wherein said electro-optical cell
includes means for providing a coloured reflection of the incident light in its non
transparent zones.
5. A display assembly according to claim 1, wherein the reflection of said
predetermined wavelengths is an interferential reflection via a multi-layered reflective
filter including a transparent top electrode of said photovoltaic cell.
6. A display assembly according to claim 5, wherein said photovoltaic cell
includes an inner reflector, formed by a reflective substrate or a bottom reflective
electrode, and an active photodiode part formed of semiconductor material having a
greater real refractive index than that of said top electrode.
7. A display assembly according to claim 6, wherein said semiconductor
material is hydrogenated amorphous silicon.
8. A display assembly according to claim 7, wherein said active silicon
photodiode part has a thickness comprised between 100 and 600 nm and said top
electrode has a thickness comprised between 60 and 300 nm, the pairing of said
thicknesses leading to a determined colour of the reflected light.
9. A display assembly according to claim 8, wherein said active photodiode
part made of silicon has a thickness comprised between 250 and 450 nm and said top
electrode has a thickness comprised between 70 and 150 nm.
10. A display assembly according to claim 5, wherein said top electrode is
covered with a transparent or slightly diffusing lacquer layer.
11. A display assembly according to claim 10, wherein said lacquer layer
contains dyes or pigments.
12. A display assembly according to claim 1, wherein said photovoltaic cell
includes a semi-transparent metal top electrode forming said coloured reflector.

13. A display assembly according to claim 1, including analogue display members placed in front of said electro-optical cell or between the latter and said photovoltaic cell.